FRENCH CREEK IN FRENCH GULCH RESTORATION

TECHNICAL SPECIFICATIONS

Deer Lodge Valley Conservation District

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Prepared for:

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PART 1 GENERAL

1.01 GENERAL

A. This section describes the project and the work to be performed under this Contract in a general summary. Detailed requirements and extent of work are stated in applicable Specification sections and are shown on the Drawings.

1.02 ORGANIZATION AND INTERPRETATION OF CONTRACT DOCUMENTS

A. Specifications and Drawings included in these Contract Documents establish the performance, quality requirements, location and general arrangement of materials and equipment, and establish the minimum standards of quality workmanship and appearance.

B. Specification sections have not been divided into groups for work of subcontractors or various trades. Should there be questions concerning the applicability or interpretation of a particular section or part of a section or Drawing, direct questions to the Engineer.

C. Grade control designs shown on the Drawings are intended to be depictive and may not be an exact and complete representation of the actual finished work. Include any accessories required to provide complete and satisfactory grade control designs, as specified, even though some items may not be specifically shown on the Drawings.

D. Any part of the work that is necessary or required to make each installation satisfactory and operable for its intended purpose, even though it is not specifically included in the Specifications or on the Drawings, shall be performed as incidental work as if it were described in the Specifications and shown on the Drawings.

1.03 STANDARD SPECIFICATIONS

A. The Montana Public Works Standard Specifications, Sixth Edition, April, 2010, may be referred to elsewhere in this document as the MPW Standard Specifications or the MPWSS. Copies of the MPW Standard Specifications are available from:

Associated General Contractors of America
Montana Contractors Association
1717 11th Avenue
Helena, MT 59601

B. Where a specification section from the MPW Standard Specifications is referenced, it shall be understood that the section is thereby made a part of these Contract Documents even though the section is not printed in this Project Manual. Special provisions that supplement or supercede referenced MPW Standard Specifications sections are included within this

Project Manual and take precedence over any conflicts with the MPW Standard Specifications.

1.04 WORK BY OTHERS

A. See Section 01041, PROJECT COORDINATION

1.05 DESCRIPTION OF PROJECT

A. This project consists of stream restoration, floodplain shaping, and revegetation of upper portions of French Creek in a general area identified as French Gulch within the Mount Haggin Wildlife Management Area (WMA). Construction will be carried out in accordance with project Drawings and these Specifications. The work in generally described below:

- Reconstruction of French Creek stream channel where indicated to restore stream channel, floodplain, and valley function;
- Regrading of adjacent floodplain areas to restore connectivity to the stream channel and provide wetland areas;
- Localized stream habitat augmentation at specified locations;
- Realignment of the French Gulch Road to remove it from the floodplain and its influence on the stream channel;
- Smoothing and removal of specified existing mine waste piles to blend with existing topography where indicated;
- Re-vegetation and weed control of project area.

B. This work includes, but is not limited to: the furnishing and installation of equipment, materials, and related appurtenances in the following general trades of work: site work, excavation, stream work, revegetation, and other related trades to complete the work. The work will be done under a single contract.

1.06 LOCATION AND INSPECTION OF SITE

A. The work shall occur within the existing Montana Fish, Wildlife, & Parks (FWP) property as shown on the project Drawings. Specifically, the location of the work includes:

1. Upper French Creek within the general French Gulch area on the Mount Haggin WMA within Section 1, Township 2 North, Range 12 West, and Sections 5 & 6, Township 2 North, Range 11 West.

B. Bidders are encouraged to inspect the site and become familiar with the site conditions. All site visits shall be coordinated with the Montana Fish, Wildlife, & Parks.

C. Inquiries concerning these Specifications and Drawings may be made to Russ Anderson, P.E., Morrison-Maierle, Inc., 1 Engineering Place, Helena, Montana, 59602. (406) 442-3050.

1.07 ENGINEERING SERVICES

A. The Engineer has established a benchmark for horizontal and vertical control. Existing facilities are located with respect to this control. Using the benchmark, the Contractor shall establish staking required for the performance of the work.

B. County intersection monuments, survey monuments, control points and property pins shall be protected by the Contractor during construction operations. The County intersection surveying monuments within the project area that are destroyed, damaged or disturbed as a result of the construction will be replaced by the Engineer at cost to the Contractor. Any required replacements of the County intersection monuments will be completed once the surface restoration in the area is complete. Contractor shall have a licensed surveyor replace any other property pins or control points that are removed or damaged as a result of the construction. The cost of replacing survey stakes damaged or destroyed by the Contractor after the initial staking will be done by the Contractor at his own expense. No additional compensation shall be allowed for such replacements.

1.08 BOUNDARIES OF WORK

A. The Owner will make suitable provisions for ingress and egress, and the Owner will not cause the Contractor to enter or occupy with workers, tools, equipment or material, any ground outside the property of the Owner without the written consent of the owner of such ground. The approximate locations of the boundaries of work are shown on the Drawings. The final location and extent of the areas to be used shall be approved by the Owner. Other contractors and employees or agents of the Owner may for all necessary purposes enter upon the premise used by the Contractor, providing the operations of other contractors do not interfere with the actual scheduled operations. The Contractor shall conduct his work so as not to impede unnecessarily any work being done by others on or adjacent to the site.

B. It shall be understood that the responsibility for protection and safekeeping of equipment and materials on or near the site will be entirely that of the Contractor and that no claim shall be made against the Owner or the Engineer by reason of any act of an employee or trespasser. It shall be further understood that should any occasion arise necessitating access by the Owner to the sites occupied by these stored materials and equipment, the Contractor owning or responsible for the stored materials or equipment shall immediately remove the same. No materials or equipment may be placed upon the property of the Owner until the Owner has agreed to the location contemplated by the Contractor to be used for storage.

C. The necessary right-of-way shall be provided by the Owner and located on FWP property. The Contractor shall confine his construction operations to the area located in the general vicinity of the project area shown on the Drawings and shall use care in placing tools, equipment, excavated materials, materials, and supplies to minimize damage to the surrounding natural environment of which includes the area effected by French Creek and surrounding FWP property. The placing to tools, equipment, and materials shall by subject to the approval of either the Owner or the Engineer. The Contractor shall comply with any and all laws or restrictions mandated by the FWP for this particular project location. If an exemption is necessary to complete the project, the Contractor shall obtain consent from and shall execute a written agreement with the Owner

1.9 PROTECTION OF SITE

A. Excepting as otherwise provided herein, the Contractor shall take all necessary precautions and provide all material and equipment to protect, shore, brace, support, and maintain all public and private property in the proximity or otherwise affected by the construction work performed by him. The Contractor shall remove from the site all unused materials.

B. Contractor shall retain and protect all adjacent improvements not called for removal on the Drawings. Restore damaged items to pre-construction condition. The Contractor is responsible to protect from damage any structures or properties near all excavation. It is the Contractor's option, but only with coordination and approval of the property owner to support, move, relocate or remove a structure. Damage to existing improvements shall be repaired within 10 calendar days of the work in the immediate area. Temporary restoration may be requested by the Engineer in critical situations.

C. The Contractor shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, that may be caused by transporting equipment, materials or men to or from the Work or any part or site thereof, whether by him or his subcontractor. If property is damaged, the Contractor shall make satisfactory and acceptable arrangements with the owner of, or the agency or authority having jurisdiction over, the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.

D. The Contractor shall power wash all equipment to the satisfaction of the Owner prior to transporting to the Work.

E. Also see Section 01041, PROJECT COORDINATION.

1.10 TEMPORARY FACILITIES

A. The Contractor shall be responsible for supplying his own office, toilet and storage facilities at the site if required or desired. The Contractor shall

also be responsible for providing water needed for construction. The Contractor shall remove all traces of these facilities prior to completion of the project.

B. Also see Section 01050, FIELD ENGINEERING

1.11 SITE ACCESS

A. The Contractor shall be responsible for determining the adequacy of all roads and bridges used in moving equipment and materials to the construction site. The Contractor shall provide alternative methods of access, such as temporary crossings, for any equipment that exceeds the capacity of existing access facilities.

1.12 SAFETY

A. The Contractor shall be solely responsible for all project personnel on the jobsite and members of the public needing to travel through the jobsite. No acts or comments by the Engineer or Owner shall be interpreted as a transfer of responsibility for safety.

PART 2 PRODUCTS

2.01 UNLOADING

A. The Contractor shall be responsible for unloading and storing any and all materials that have been previously procured for this project.

PART 3 EXECUTION (Not Used)

END OF SECTION

DIVISION 1 – GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements for coordinating and sequencing the work under the Contract, and requirements regarding existing site conditions.

B. Requirements for cutting and patching of new and existing work.

1.02 JOBSITE COORDINATION

A. Coordination with Other Work: The project shall be coordinated with the following work:

1. Drop off and delivery of project materials. Contractor shall be responsible for any coordination, procurement, delivery, and storage of all project materials required.

B. Owner may perform additional work related to this project or Owner may let other direct contracts therefore which shall contain General Requirements similar to these. Contractor shall afford the other Contractors who are parties to such direct contracts, (or Owner if they are performing the additional work), reasonable opportunity for the introduction and storage of materials and equipment and execution of work, and shall properly coordinate his work with theirs.

C. If any part of Contractor's work depends on proper execution or results from the work of any such other Contractor (or Owner), Contractor shall inspect and promptly report to Owner and Engineer in writing any defect or deficiencies in such work that renders it unsuitable for such proper execution or results. His failure to so report shall constitute an acceptance of the other work as fit and proper for the execution of his work except as to defects and deficiencies that may appear in the other work after the execution of his work.

D. Contractor shall do all excavating, construction of stream channel restoration, revegetation, placement of grade control structures, and other work to ensure that the project is completed to appropriate specifications. Contractor shall not endanger any work of others by excavating, or otherwise altering their work and will only alter their work with the written consent of the Engineer and of the other Contractors whose work will be affected.

E. If the performance of additional work by other Contractors or Owner is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to Contractor prior to starting any such additional work. If Contractor believes that the performance of such additional work by Owner or others involved results in additional expense

or requires an extension of the contract time, Contractor may make a claim therefore.

F. Contractor shall be responsible for all areas of the site used by him and all Subcontractors in performance of the work. He shall exert full control over the actions of all employees and other persons with respect to the use and preservation of property and existing facilities, except such controls as may be specifically reserved to Owner or others.

G. Contractor and all Subcontractors shall cooperate in the coordination of their separate activities in a manner that will provide the least interference with the Owner's operations and utility companies working in the area, and in the interfacing and connection of the separate elements of the overall project work. If any difficulty or dispute should arise in the accomplishment of the above, the problem shall be brought immediately to the attention of the Owner and Engineer. All Contractors working on this site are subject to this requirement for cooperation, and all shall abide by the Engineer's decision in resolving project coordination problems without additional cost to the Owner.

1.03 SUBMITTALS

A. Contractor shall submit the following information as applicable to coordination activities:

1. Subsurface information and utilities

a. Records or logs of borings or test holes made by Contractor, if any.

b. Results of exploratory excavations made to verify locations and nature, shape, dimensions, etc., of existing utilities and facilities; where possible, indicate this information on a clean copy of the Drawings.

2. Field Relocation: Clearly show proposed relocations of new or existing facilities, or related work affected by the relocation, on a clean copy of the Drawings and submitted prior to performing the relocation.

3. Easements: Copy of the easements and other agreements obtained from utilities and property owners as required to carry out the work. Note this only applies to easements executed by the Contractor.

4. Connecting Work: Proposed methods of connecting new work to existing facilities, where not shown or specified.

5. Cutting and Patching:

a. Written notice requesting consent to perform cutting that may affect structural safety or normal functioning of existing utilities.

b. Recommendations indicating changed conditions, alternative materials or methods, time when uncovered work may be observed, and other information necessary to evaluate substitutions when work conditions necessitate change of materials or methods.

6. Leases: Copy of leases and other agreements obtained from public agencies or private owners as required for Contractor's staging and material storage areas.

1.04 SITE CONDITIONS

A. Information on Site Conditions:

1. General: Information obtained by the Owner regarding site conditions, topography, subsurface information, groundwater elevations, existing construction of site facilities as applicable, and similar data is included in the Contract Documents or will be available for inspection at the office of the Engineer or Owner upon request. Such information is offered as supplementary information only. Neither the Engineer nor the Owner assumes responsibility for its accuracy or completeness or for the Contractor's interpretation of such information.

2. Subsurface Information:

a. Subsurface investigations at the site have not been performed. Note that groundwater information is not provided.

3. Control Points: Contractor shall check existing vertical and horizontal survey control points on structures and improvements located in the vicinity of the work prior to beginning the work. He may establish new vertical and horizontal control points, if desired. Furnish Engineer with copies of survey notes for each survey and a copy of the layout of survey control points, if conducted.

B. Existing Utilities: The Contractor is advised that there is one-call utilities locate number in use for utility locations requests within the State of Montana for buried gas, electrical and telecommunication lines. The one call number is 1-800-424-5555. It is mandatory to use this system before any excavation work in Montana.

2. Contractor's Responsibilities:

a. Where Contractor's operations could cause damage or inconvenience to telephone, television, power, oil, gas, water, sewer, or irrigation systems, the Contractor shall make arrangements necessary for the protection of these utilities and services. Replace existing utilities removed or damaged during construction with equal or better materials, unless otherwise provided for in these Contract Documents.

b. Notify utility offices that are affected by construction operations at least 48 hours in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for the utilities.

c. Notify affected users, the Owner, and emergency services of planned service outages in writing (by door hanger) a minimum of twenty-four (24) hours in advance of planned outage. Provide details such as phone number of superintendent, date and times for outage.

d. Protect all utility poles from damage. If interfering utility poles will be encountered, notify the utility company at least 48 hours in advance of construction operations to permit necessary arrangements to protect or relocate the poles.

e. Contractor shall be solely and directly responsible to owner and operator of such properties for damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of injuries or damage that may result from construction operations under this Contract.

f. Neither Owner nor its officers or agency shall be responsible to Contractor for damages as a result of Contractor's failure to protect utilities encountered in the work.

g. In event of interruption to domestic water, sewer, storm drain, or other utility services (public and private) as a result of accidental damage due to construction operations, promptly notify the Owner and/or proper authority. Cooperate with Owner and said authority in restoration as promptly as possible and pay for repair. Prevent interruption of utility service unless granted by the utility owner.

h. Drainage culverts at or near right angles to a pipeline, and removed by the Contractor, shall be replaced and/or restored to their original condition.

i. Maintain a legible log of all utility crossings showing type, depth, date of crossing. Location referenced to project stationing, and a notation if the utility was damaged, type of repair, and who made the repair. The Contractor will work with Engineer to maintain an accurate and complete log that will become part of the as-constructed contract drawings.

C. Interfering Structures:

1. Take necessary precautions to prevent damage to existing structures whether on the surface, above ground or underground.

2. Protect existing structures from damage, whether or not they lie within limits of easements obtained by the Owner. Where existing fences, gates, sheds, buildings or other structures must be removed to properly carry out the work, or are damaged during work, restore them to original condition and to the satisfaction of property owner.

3. Contractor may remove and replace in equal or better than original condition, small structures such as fences, mailboxes and signposts that interfere with Contractor's operations. Contractor shall obtain permission from the small structure owner prior to removal and replacement. Comply with all regulatory requirements.

D. Field Relocation:

1. During construction, it is expected that minor relocations of proposed facilities will be necessary. Make such relocations only by direction of the Owner or Engineer. If existing structures are shown that prevent construction as shown, Notify the Engineer before continuing the work so Engineer may make necessary field revisions.

2. Where shown or directed by and acceptable to the Engineer and Owner, provide relocation of existing facilities to include piping, utilities, equipment, structures, electrical conduit wiring, electrical duct bank, and other miscellaneous items. Use only new materials for relocation of existing facilities. Match materials of existing facilities unless otherwise shown or specified. Perform relocations to minimize downtime of existing facilities. Install new portions of existing facilities in their new position prior to removing existing facilities, unless otherwise accepted by Engineer.

E. Monuments and Markers:

1. Preserve and protect survey monuments and markers throughout construction. If damage occurs or removal becomes necessary, notify Engineer. Engineer will restore survey monuments at no expense to the Contractor.

2. Preserve private and public monuments that are found. If monument must be removed, it shall be replaced at its original location using a registered land surveyor. Notify Engineer when monuments are encountered. If government monuments are encountered, reference the monument for future replacement and provide 10-day advance notification to Engineer who will notify the proper authority.

F. Easements:

1. Where portions of work will be located on public or private property, easements and permits for rights-of-way will be obtained by the Owner, with the exception of the staging area lease agreement, which shall be the responsibility of the Contractor. Easements and permits for rights-of-way will provide for use of property for construction purposed only to the extent indicated on easements and permits. Copies of these easements and permits will be available from Owner for inspection. Contractor shall review the easements and permits obtained and abide by easement and permit provisions. Confine construction operations to within easement and permit limits or make special arrangements with property owners or appropriate public agency for additional area required.

2. Before final payment will be authorized, Contractor shall furnish the Owner written releases from property owners and/or public/private agencies where side agreements or special easements have been made, or where Contractor's operations have not been kept within the Owner's property.

3. In the event Contractor is unable to secure written releases, inform the Owner of the reasons.

   a. Owner or its representatives will examine the site, and Owner will direct Contractor to complete work that may be necessary to satisfy terms of the easements.

   b. Should Contractor refuse to do this work, Owner reserves the right to have it done by separate contract and deduct the cost of same from Contract amount, or require the Contractor to furnish a satisfactory bond in a sum to cover legal claims for damages.

c. When Owner is satisfied that work has been completed in agreement with the Contract Documents and terms of easements, the right is reserved to waive the requirement for written release if Contractor's failure to obtain such statement is due to grantor's refusal to sign, and this refusal is not based upon any legitimate claims that Contractor has failed to fulfill the terms of the easement or Contractor is unable to contact or has had undue hardship in contacting the grantor.

G. Connecting to Existing Facilities: Unless otherwise shown or specified, determine methods of connecting new work to existing facilities, and obtain Engineer's review and acceptance of connections.

1. Determine location, elevation, nature, materials, dimensions, and configurations of existing facilities where necessary for connecting new work.

2. Inspect existing record drawings and shop drawings, conduct exploratory excavations and field inspections, and conduct similar activities as needed.

3. Bypass pumping by Contractor if necessary.

H. Erosion and Dust Control On-Site:

1. The Contractor shall be responsible for reducing soil erosion and dust due to wind or water to a level meeting federal, state, and local regulations at the construction site. Control measures that may be required include, but may not be necessarily limited to, the following:

a. Suspension of excavation during high wind or rain.

b. Minimization of land exposure in area and time.

c. Covering erodible areas as quickly as possible with gravel or by compaction.

d. Stabilizing construction site soils.

e. Controlling dust during construction by use of water spray.

f. Water and/or chemically stabilize unpaved detours or any other fugitive dust emission sources resulting from construction of demolition. The fugitive dust can also be reduced by detouring traffic to paved approaches to the site.

g. On-site burning of waste materials is not allowed.

1.05 PROJECT MEETING OR REPORTS

A. Pre-construction Conference: A pre-construction conference will be scheduled as directed by the Owner.

B. Progress Meetings: The Owner will schedule regular progress meetings approximately every Monday during construction schedule to review work progress, schedules, and other matters needing discussion and resolution.

1.06 SCHEDULING OF WORK

A. Modifications to Existing Facilities:

1. Where existing facilities are to be modified during the course of work, obtain Owner's and Engineer's review and acceptance of submittals for temporary shutdown and bypass pumping, demolition, modification, corrections between new and existing work, and other related work. Conform to other sections as applicable.

2. Connections to existing service or utilities, or other work that requires the temporary shutdown and/or bypass pumping of any existing operations of utilities shall be planned in detail with appropriate scheduling of the work and coordinated with the Owner and Engineer. The schedule for shutdown or restart shall be given by written advance notice in order that the Owner or Engineer may witness the shutdown, tie-in, and startup.

3. All materials and equipment, including emergency equipment, necessary to expedite tie-ins shall be on hand prior to the shutdown of existing services or utilities.

4. Unless otherwise specified or indicated, Contractor shall make all necessary connections to existing facilities including manholes, structures, pipelines, and utilities such as gas and electric as applicable. In each case, Contractor shall obtain permission from the Owner or the owning utility prior to undertaking connections. Contractors shall protect facilities against deleterious substances and damage.

5. Connections to existing facilities that are in service shall be thoroughly planned in advance, and all required equipment, materials, and labor shall be on hand at the time of undertaking the connections. All equipment, materials, and labor that the Contractor plans to have available shall be coordinated with the Owner and Engineer in order to ensure the work is done in the minimum amount of time.

C. Time of Work:

1. Overtime Notice: If Contractor for convenience should desire to carry on work outside regular working hours, submit written notice to the Owner and Engineer and allow ample time for satisfactory arrangements to be made for inspecting work in progress as specified in the Supplementary Conditions. The Engineer will be the sole judge of whether onsite inspection is required.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 REMOVAL/RELOCATION/REPLACEMENT OF EXTRANEOUS ITEMS

A. Contractor shall be responsible to other items in conflict with construction. Contractor shall notify owner or utility company of such items prior to construction and shall coordinate with owner as to methodology required. Unless a specific bid item is identified and the removal is approved by the Engineer, the cost for this work will be considered incidental to all other items.

END OF SECTION

PART 1: GENERAL

1.01 ENGINEERING SURVEYS

A. Notify Engineer of required survey work at least 72 hours before starting work.

B. Preserve all benchmarks, control points and stakes.

C. Replace benchmarks, control points and stakes destroyed or disturbed by Contractor or subcontractor.

1.02 FIELD ENGINEER

A. Engineer shall make determination of certain work items as indicated on Drawings. Alterations to the quantity of work shall be accounted for at unit contract price of affected item.

PART 2: PRODUCT - NOT USED

PART 3: EXECUTION - NOT USED

END OF SECTION

PART 1 GENERAL

1.01 SCOPE

A. This section describes the method of measurements and basis of payment for all work covered by the Contract Documents.

B. For the purposes of this Contract, this Measurement and Payment Section shall govern and take precedence over all other references to measurement and payment (with the exception to the Supplementary Provisions and any Addenda) referenced in these specifications.

1.02 GENERAL

A. The unit price for each item of the Contract shall cover all work shown on the Contract Documents and required by the specifications and other Contract Documents. All costs in connection with the work, including furnishing all materials, equipment, supplies and appurtenances; providing all required construction support plants, equipment and tools; constructing and maintaining dewatering systems; and performing all necessary labor and supervision to fully complete the work, shall be included in the unit and lump sum prices in the Pay Items Schedule. The amounts shown on the Pay Items Schedule shall be the contract price.

B. No item that is required by the Contract Documents for the proper and successful completion of the work will be paid for outside of or in addition to the prices submitted in the contract. All work not specifically set forth by the Owner as directed in the formal contract between the Owner and the Contractor as a pay item shall be considered a subsidiary obligation of the Contractor and the Owner shall be informed of all costs in connection therewith. A change order shall be issued by the Owner as is necessary.

1.03 ESTIMATED QUANTITIES

A. All estimated quantities stipulated in the Contract Documents are approximate and are to be used only as a basis for estimating the probable cost of the work.

B. The actual amount of work done and materials furnished under unit price items may differ from the estimated quantities. The basis of payment for work and materials will be as defined in this section. The Contractor agrees that he will make no claim for damages, anticipated profits, or otherwise on account of any difference between the amount of work actually performed and materials actually furnished and the estimated amounts herein.

1.04 SURVEYS AND MEASUREMENTS

A. All cubic yard quantity measurements shall be performed by Engineer as specified in this section.

B. All hourly measurements shall be recorded by the Contractor as specified in this section and approved by the Engineer.

1.05 METHOD OF MEASUREMENT

A. No measurement of lump sum bid items in this Contract will be made.

B. Measurement of unit price items contained in the Contract will be made in the field by the Engineer or Owner onsite personnel and will be approved by the Engineer as required.

1.06 BASIS OF PAYMENT

A. The pay items for the work in this Contract are a combination unit price and lump sum for all construction activities and materials required to complete the work described in the Contract Documents. Payment for the items shall include all labor, materials, equipment, and incidentals required to complete the item. The work included in each item is more completely described below:

PAY ITEMS – French Creek Restoration in French Gulch

Item # Description

01 Taxes, Bonds, and Insurance. This item shall include any and all taxes, bonds, insurance costs in relation to this project together with any fees, permits if applicable, licenses and or other incidental regulatory costs assessed by Local or Federal agencies as required for the successful completion of this project. Payment will be at the lump sum contract price. To be paid fifty (50) percent upon mobilization to begin construction if the bid price for this item is equal to or less than five (5) percent of the total price. For the second fifty (50) percent of the bid amount plus that portion of the taxes, bonds, and insurance price greater than five (5) percent, if any, payment of the second fifty (50) percent and the excess greater than five (5) percent shall be paid in increments on the basis of the percentage of work completed at each progress estimate.

02 General Requirements. This item includes coordination; scheduling; submittals; quality control; construction facilities and temporary controls; safety at the site; environmental quality control; product shipment, handling storage and protection; manufacturer's services; completed record drawings; final cleanup and contract closeout; complete. Progress payments for the work in this item will be made according to the following schedule:

Amount of Construction Time Expended	For Payment, the Cumulative Percentage of the Amount in the Bidder's Breakdown for the Work Under This Section Will Equal
Thirty (30) days Sixty (60) days Remainder of project	Thirteen (13) Percent Twenty-five (25) Percent Equal monthly disbursements for the remainder of the project

03 Mobilization and Demobilization. This item shall include moving equipment and other necessary work items to and from the project site. This item shall include costs for unloading, storing, and stockpiling of any materials procured for construction at the project site. Payment will be at the lump sum contract price.

04 Water & Dust Control. This item includes all labor, equipment, and materials to prevent adverse impacts from water and dust created from construction activities. Contractor is

responsible for any impacts from construction and measures to mitigate. Payment will be at the lump sum contract price.

05 Soil & Erosion Control. This item includes all labor, equipment, and materials for installation of erosion and sediment control devices as specified, permit fees for Montana Pollutant Discharge Elimination System permit, and effort for SWPPP administration. Item shall include all equipment, labor, materials, supplies, and related work incidental and necessary to complete this item as specified and shown on the Drawings. Payment will be at the lump sum contract price.

06 Clearing and Grubbing. This item consists of all materials and work necessary to complete the top soil stripping and re-spreading. The top 6 inches of the existing ground shall be stripped and stockpiled prior to beginning earth moving activities in the areas delineated on the Drawings. Upon completion of earth moving activities the stockpiled top soil shall be re-spread over all disturbed areas within the constructed stream channel or as directed by the Engineer. Payment will be at the lump sum contract price.

07 Excavation & Embankment – Streamwork. This item consists of the materials and work necessary to construct, shape, and grade the restored stream channel and adjacent floodplain. This work includes final shaping of material to meet design dimensions. Hauling and stockpiling of material is incidental to this item. Payment shall be made on a cubic yard basis. Measurement shall be based on percent of design quantity complete. Quantity is calculated by surface comparison of existing topographic survey and design surface of stream channel and floodplain.

08 Stream Banks – Fabric Wrap. This item shall consist of the equipment, labor, materials, and supplies required to construct coir blanket wrap stream bank as indicated on the Drawings in the constructed stream channel. Earthwork for stream banks is incidental and not included in item 06. Payment shall be made on a lineal foot basis at contract price.

09 Stream Banks – Alluvium. This item shall consist of the equipment, labor, materials, and supplies required to construct stream bank of coarse representative alluvium as indicated on the Drawings in the constructed stream channel. Earthwork for stream banks is incidental and not included in item 06. Payment shall be made on a lineal foot basis at contract price.

10 Stockpile & Install – Wood Structure. This item shall include all materials, equipment, and work necessary to strip, salvage, stockpile, and install wood structures as shown on Drawings. Revegetation for localized installation locations shall be completed with plant species as specified. Payment shall be on an each basis. Areas disturbed by equipment or construction operations outside the extents indicated for installation will not be paid for and costs for restoration of damaged areas shall be incidental to this item.

11 Stockpile & Install – Large Wood Habitat. This item shall include all materials, equipment, and work necessary to strip, salvage, stockpile, and install large wood habitat as shown on Drawings. Revegetation for localized installation locations shall be completed with plant species as specified. Payment shall be on an each basis. Areas disturbed by equipment or construction operations outside the extents indicated for installation will not be paid for and costs for restoration of damaged areas shall be incidental to this item.

12 Stockpile & Install – Step/Pools. This item shall include all materials, equipment, and work necessary to strip, salvage, stockpile, and install step/pools as shown on Drawings. Revegetation for localized installation locations shall be completed with plant species as specified. Payment shall be on an each basis. Areas disturbed by equipment or construction operations outside the extents indicated for installation will not be paid for and costs for restoration of damaged areas shall be incidental to this item.

13 Collect Willow Stakes. This item shall include all equipment and labor to collect willow cuttings for streambank bioengineering. This item is focused on the collection and storage of willow cuttings. This item will include locating adequate collection sites and completing labor required to collect these plant material in the form of stakes. Payment will be a lump sum contract price for producing a specified quantity of necessary willow stakes.

14 Organic Material / Topsoil – Strip/Stockpile/Place. This item shall include all equipment and labor to stockpile topsoil for construction of the streambanks and floodplain areas. This item will include grading, excavation and hauling of existing topsoil. The contractor will follow specifications as prescribed in the design sheets. Payment will be based on a per acre basis.

15 Seed / Mulch – Floodplain Areas. This item shall include all equipment, labor, and materials (seed) to broadcast seed the prescribed work areas. The contractor will utilize the two seed mixes (streambank / wetland and floodplain), and rates as specified in design plans. Payment will be based on a per acre basis.

16 Seed / Mulch – Wetland/Streambank Areas. This item shall include all equipment, labor and materials (seed) to broadcast seed the prescribed work areas. The contractor will utilize the two seed mixes (streambank / wetland and floodplain), and rates as specified in design plans. Payment will be based on a per acre basis.

17 Plant / Install – Wetland. This item shall include all equipment, labor, and plant materials to complete revegetation of the wetland areas. This work shall include hand planting herbaceous plugs within the construction wetland depressions. Payment will be a lump sum contract price for installing specified # of plantings in the designated area. .

18 Plant/Install – Streambank. This item shall include all equipment, labor, and plant materials to complete revegetation along the streambank areas. This work shall include hand planting of containerized woody plants and installation of browse control. Plant installations shall follow revegetation specifications as prescribed in the design sheets. Payment will be a lump sum contract price for installing specified # of plantings in the designated area. .

19 Plant/Install – Floodplain. This item shall include all equipment, labor, and plant materials to complete revegetation within the floodplain areas. This work shall include hand planting of containerized woody plants and installation of browse control. Plant installations shall follow revegetation specifications as prescribed in the design sheets. Payment will be a lump sum contract price for installing specified # of plantings in the designated area. .

20 Culvert Removal & Disposal. This item shall include all equipment, labor, and materials for removal, hauling, and disposal of the existing corrugated metal covert as indicated on the Drawings. Excavation of existing culvert and roadway are not included in this item and are paid and measured as defined under item #07. Payment will be at lump sum contract price.

21 Road Reconstruction. This item shall include all equipment, labor, and materials to reconstruct the French Gulch Road as indicated on the Drawings. This work includes all clearing, stripping, earthwork, compaction, and grading to achieve alignment, profile, and section of road reconstruction. Payment shall be made on a lineal foot basis at contract price.

Note: All coordination, scheduling, submittals, quality control, construction facilities and temporary controls, safety at the site, dewatering, environmental quality control, product shipment, permits, handling storage and protection, manufacturer's services, completed record drawings, contract closeout, cleanup, construction water, over-excavation of any material, bypass pumping (if required), rock extractions, utility (water, natural gas, telephone, fiber optic, electrical, street lighting, etc.) crossings and repairs (public and private except as paid for as a unit item), utility coordination, thermal and moisture protection, fence repair, as built drawings, restoration of surfaces beyond payable limits or restoration at areas outside construction zone damaged by this construction and required to be restored, discharge and other permits not identified as a bid item, labor, material, equipment, delivery, installation, startup and testing, taxes, freight, and all other incidental costs and any other items not shown as a pay item are considered subsidiary to the prime pay items and as such receive no direct payment.

END OF SECTION

PART 1: GENERAL

1.01 Construction Schedules

A. Before Starting Construction: Preliminary Schedules: 10 days prior to the start of construction (unless otherwise specified in the General Requirements), Contractor shall submit to Owner for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

1.02 Initial Acceptance of Schedules

A. Prior to the first application for payment, all schedules and documents identified in paragraph 1.01.A shall be finalized and acceptable to the Engineer and Owner. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer and Owner as provided below. Acceptance of these schedules and documents by either Engineer or Owner will neither impose on Engineer or Owner responsibility for the sequencing, scheduling or progress of the Work and will not interfere with or relieve Contractor from Contractor's full responsibility therefore.

1. The Progress Schedule will be acceptable to Engineer and Owner if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer and Owner responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefore.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

1.03 Progress Schedule

A. Contractor shall adhere to the Progress Schedule established in accordance with paragraph 1.02 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer with each application for payment an updated progress schedule reflecting the amount of work completed and proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Until the updated schedules are submitted to and acceptable to Engineer and Owner, Owner may withhold an amount from a progress payment that is sufficient to pay the direct expenses that Owner may reasonably expect will be necessary to correct any problems based on Contractor's failure to submit acceptable updated schedules. Review and acceptance of progress schedules by the Engineer will neither impose on Engineer responsibility for the sequencing, scheduling or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefore.

B. Submit to the Engineer adjusted progress schedules as shown above

C. Submit to the Engineer and Owner, value schedules. The Schedule of Values established as shown above, will serve as the basis for progress payments and will be incorporated into a form of Application of Payment acceptable to Engineer and Owner. Progress payments on account of Unit Price Work will be based on the number of units completed.

PART 2: **PRODUCT - NOT USED**

PART 3: EXECUTION

3.01 Shop Drawings and Samples

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals as required by paragraph 1.02. Each submittal will be identified as Owner or Engineer may require.

1. Shop Drawings:

a. Submit electronic copy to Engineer.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by paragraph 3.01.D.

2. Samples:

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data

as Engineer may require to enable Engineer to review the submittal for the limited purposes required by paragraph 3.01.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Submittal Procedures:

1. List of submittal items: (additional submittals may be required on Owner's request)

   a. NOI Package receipt by MDEQ

   b. Weed Control Herbicide

   c. Seed Mix of Upland and Riparian areas

   d. Coir Fabric

   e. Equipment List

   f. Vegetation

2. Before submitting each Shop Drawing or Sample, Contractor shall have:

   a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

   b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

   c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

   d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

3. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

4. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of paragraph 3.01.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of paragraph 3.01.C.1.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

F. Submit in writing any substitutions to previously approved items for review by the Engineer.

G. Within 15 days prior to start of construction, submit a complete list of products proposed for use, providing manufacturer's name, trade name, and model or catalog numbers, and manufacturer data. Submit the number of copies needed by the Contractor, plus three copies for Engineer use.

H. Where specified, submit samples to illustrate functional and aesthetic

characteristics of the Product, with integral parts and attachment devices. Where specified, submit samples of finishes including colors, textures, and patterns.

END OF SECTION

PART 1: GENERAL

1.01 DESCRIPTION

A. This section describes the Contractor quality control testing requirements and Owner's quality assurance program.

1.02 REFERENCES

A. The following ASTM publication is a part of this specification.

ASTM E 329 Evaluation of Testing and Inspection Agencies as Used in Construction

PART 2: PRODUCT - NOT USED

PART 3: EXECUTION

3.01 GENERAL

A. Contractor shall be responsible for QUALITY CONTROL testing and inspections to control contractor production and construction processes. Included in the Contractor quality control system an internal organization, plans, and procedures to produce the specified end product. Assure the system covers all construction operations, both on-site and off-site, and is keyed to the construction sequence

B. Quality assurance testing is performed following the standards in the technical specifications for individual products.

END OF SECTION

PART 1: GENERAL

1.01 CONSTRUCTION FACILITIES

A. Furnish personnel support facilities including: sanitary facilities; drinking water; first aid supplies and facilities; and, trash removal.

B. Do not park vehicles or equipment or store materials on private property without written permission from the property owner.

1.02 SECURITY

A. Provide fencing, barricades, warning signs, and lights to secure all work areas, equipment, and materials as necessary.

1.03 DUST CONTROL

A. Be responsible for dust control, providing all equipment and personnel for the work as needed or required by local ordinances.

1.04 HAUL ROUTES

A. Obtain Owner approval of haul routes.

PART 2: PRODUCTS -- NOT USED

PART 3 : EXECUTION - NOT USED

END OF SECTION

PART 1 GENERAL

1.01 WORK INCLUDED

A. The work shall consist of installing measures or performing work to control and protect the environmental quality of the project site and to minimize the pollution of the water and air during the construction operations in accordance with these specifications.

1.02 RELATED WORK SPECIFIED UNDER OTHER SECTIONS

A. Section 01400 - QUALITY CONTROL.

B. Section 01500 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 EROSION AND SEDIMENT CONTROL MEASURES AND WORKS

A. The erosion and sediment control work and measures shall include but not be limited to the following and as shown in the Contract Documents.

1. If surface disturbance exceeds one acre, which requires a Montana Department of Environmental Quality Stormwater Discharge Permit, the Contractor shall submit a written erosion control plan to the Engineer and Owner 15 days prior to start of construction. The plan shall address, but not be limited to, erosion due to storm water runoff, dust abatement, etc.

2. Provide sediment barriers (silt fence) along slopes greater than 5% grade and before stream crossings in accordance with Section 01560, 3.03 and all federal, state, and local requirements.

B. Control of Earthwork Activities:

1. The excavation and moving of soil materials shall be scheduled so that the smallest possible areas will be unprotected from erosion for the shortest time practical.

2. Excavated materials or other construction materials stockpiled or deposited near or on stream banks, lake shorelines, or other watercourse perimeters shall be protected to prevent being washed away by high water or storm runoff or can in any way encroach upon the actual watercourse itself.

3. All surplus dredged or excavated materials shall be placed on an upland site above the ordinary high water line in a confined area, not classified as a wetland, to prevent the return of such materials to the waterway as shown on the Drawings.

4. All earthwork operations on shore shall be carried out in such a manner that sediment runoff and soil erosion to the water are controlled.

C. Seeding: Seeding to protect disturbed areas shall be used as specified in the Contract Documents.

E. Vegetation Conservation: Except where clearing is required for the work, approved construction roads, or excavation operations, all trees, native shrubbery, and vegetation shall be preserved and shall be protected from damage by the construction operations and equipment. The Contractor shall move equipment on access routes within the project area in a manner which will prevent damage to crops, rangeland, or property.

1. Undisturbed buffer strips of natural vegetation shall be left on banks and bottoms of waterways and at road crossings until start of construction.

F. Diversions:

1. Diversions shall be used to divert water away from work areas and/or to collect runoff from work areas for water quality treatment and safe discharge.

2. Diversions or channel changes required by the Contractor to complete the work shall be completed in a manner to minimize erosion.

3. The Contractor shall remove all diversions, culverts, bridges and other temporary work following completion of the work and shall restore the area disturbed to essentially the same configuration as it was prior to construction or to the final lines and grades as shown on the Contract Documents.

G. Stream Crossings: Except as necessary to perform stream channel and floodplain restoration and as approved by the Owner or Engineer, the Contractor shall not be permitted to ford live streams. When necessary, the Contractor shall install adequate culverts, bridges, or other works so that all equipment and vehicles can operate and work can be completed without the equipment's tires or tracks entering the live stream channel. If the steam is dry at the time of construction, the stream bed may be crossed without installation of any culverts, bridges, or other works.

H. Sediment Basins: Sediment basins shall be used to settle and filter out sediment from eroding areas, and to protect properties and streams below the construction areas.

I. Temporary and permanent slope breakers and sediment barriers (e.g. soil berms or staked bales of hay) will be installed to reduce water erosion on slopes greater than five percent as at stream crossings.

3.02 WATER POLLUTION CONTROL

A. The Contractor's construction activities shall be performed by methods that will prevent the entrance, or accidental spillage, of solid matter, contaminants, debris, and other objectionable pollutants and wastes into streams, flowing or dry watercourses, lakes, and underground water sources. Such pollutants and wastes shall include, but are not restricted to, refuse, garbage, cement concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution. Servicing and refueling of construction equipment shall be restricted to areas more than 250 feet away from a water body.

1. No herbicide shall be applied within 25 feet of water bodies unless specifically labeled for use in or next to water. Mechanical or biological control methods also can be used. Herbicide shall be applied in compliance with federal, state, and local regulations. Use of coil carriers with herbicides shall be avoided.

B. Compliance with Applicable Laws and Regulations:

1. The Contractor shall comply with all applicable Federal, State and local laws, orders, and regulations concerning the control and abatement of water pollution.

2. Prior to the discharge of any wastewater or other pollutants, or any dredged or fill materials into navigable waters, the Contractor shall obtain the proper permits and provide a copy to the Engineer.

C. Other Provisions:

1. All construction debris shall be disposed of on land in such a manner that it cannot enter a waterway or wetland.

2. Equipment for handling and conveying materials during construction shall be operated to prevent dumping or spilling the materials into the water except as approved herein.

3. During construction and subsequent operation of this facility, no petroleum products, chemicals, or other deleterious materials shall be allowed to enter or be disposed of in such a manner so that they could enter the water and precautions shall be taken to prevent entry of these materials into the water.

4. All work in waterways shall be performed in such a manner so as to minimize increases in suspended solids and turbidity, which may degrade water quality and damage aquatic life outside the immediate area of operation.

5. Only clean riprap materials shall be utilized in order to avoid the percolation of fines which would result in excessive local turbidity and the riprap shall be placed in such a manner so as to provide a reasonably solid mass with no appreciable variation in thickness or slope.

6. The Contractor shall maintain close coordination with downstream water users, advising them of any water quality changes to be caused by the construction.

D. Dewatering Procedures:

1. The Contractor shall construct, maintain, and operate cofferdams, channels, flume drains, sumps, pumps, or other temporary diversion and protection works. Furnish materials required, install, maintain, and operate necessary pumping and other equipment for environmentally safe removal and disposal of water from the various parts of the work. Maintain any foundations, trenches, pipelines, and parts of the work free from water.

2. Where an excavation extends below the water table, dewater in a manner that will prevent loss of fines from the foundation. Maintain stability of slopes and bottom of the excavations, and perform construction operations in the dry. Use screened wells or equivalent methods for dewatering. Control seepage along the bottom of excavations, which may require ditches and pipe drains leading to sumps from which the water shall be pumped and properly discharged.

3.03 STORM WATER DISCHARGE PERMIT

A. Federal law requires an appropriate storm water discharge permit be obtained prior to the start of construction on any Work Delivery Order that will result in one (1) or more acres of surface disturbance. The Contractor shall meet all requirements for storm water discharges from construction activities as administered by the U.S. Environmental Protection Agency (USEPA) and Montana Department of Environmental Quality (MDEQ).

The Contractor shall submit a Notice of Intent (EPA Form 3510-9 Rev. 6/03). Construction involving surface disturbance may begin upon submittal of the complete NOI Package and fees. The NOI shall be submitted to:

Department of Environmental Quality
Water Protection Bureau
PO Box 200901
Helena, MT 59620-0901
Telephone: (406) 444-3080

Forms can be found online at
http://deq.mt.gov/wqinfo/mpdes/stormwaterconstruction.mcpx

B. The Engineer shall be responsible for developing a written site-specific Storm Water Pollution Prevention Plan (SWPPP) in accordance with the USEPA guidance document entitled *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices.* A copy of the SWPPP may be requested for review by the USEPA. The SWPPP must:

1. Be in writing.
2. Be followed during construction of this project.
3. Be modified as may be necessary depending on changing site conditions.
4. Be maintained at the project site at all times.
5. Be available for review upon request by the regulatory authorities.

C. A copy of the SWPPP shall be submitted to the Owner and the Contractor prior to the start of construction.

D. The SWPPP shall be included in the Contractor's NOI Package along with the appropriate fees.

E. Within 15 days of completion of soil disturbing activities associated with the work a Permit Transfer Notification will be filed with the MDEQ to transfer the MPDES permit from the Contractor to the Owner.

F. The Owner shall also submit a Notice of Termination (EPA Form 3510 13) (Rev. 6/03). The NOT must be submitted to the MDEQ upon the completion of construction when all soil disturbing activities have ceased and the site has been stabilized.

3.04 CHEMICAL POLLUTION

A. The Contractor shall provide tanks or barrels to be used to dispose of chemical pollutants produced as a by-product of the project work such as drained lubricating or transmission oils, greases, soaps, asphalt, etc. At the completion of the construction work, storage tanks or barrels shall be removed from the site and properly disposed of.

B. Sanitary facilities such as chemical toilets or septic tanks shall not be placed adjacent to live streams, wells, or springs. They shall be located at a distance of 200 feet or as required to prevent contamination of any well or watercourse.

C. The term pesticide as used in these Specifications shall include all herbicides, insecticides, fungicides, and rodenticides. Should the Contractor find it necessary to use pesticides in the areas of work under this contract, he shall submit his plan for such use to the Engineer for written approval. The Contractor shall not proceed prior to approval by the Engineer.

D. Pesticides used shall only be those registered with the Environmental Protection Agency in compliance with the Federal Environmental Pesticide Control Act of 1972 and other Federal pesticide acts. Pesticides names on the Department of the Interior's "Prohibited List" shall not be used.

3.05 AIR POLLUTION

A. The Contractor shall comply with applicable Federal, State, and local regulations concerning the prevention and control of air pollution and the burning of brush, slash or other materials. In no case shall unapproved materials, such as tires, plastics, rubber products, asphalt products, or other materials that create heavy black smoke or nuisance odors, be burned. Trash burning will not be permitted and smoke of any kind shall be minimized.

B. Fire prevention measures shall be taken to prevent the start or the spreading of fires resulting from the project work.

C. In the conduct of construction activities and operation of equipment, the Contractor shall utilize such practicable methods and devices as are reasonably available to control, prevent, and otherwise minimize atmospheric emissions or discharges of air contaminates.

D. Equipment and vehicles that show excessive emissions of exhaust gases shall not be operated until corrective repairs or adjustments are made.

3.08 PRESERVATION OF HISTORICAL AND ARCHEOLOGICAL DATA

A. Federal legislation provides for the protection, preservation, and collection of scientific, prehistoric, historic, paleontologic, and archeologic data (including relics and specimens) that might otherwise be lost due to alteration of the terrain as a result of any Federal construction project.

B. The Contractor agrees that, should he or any of his employees in the performance of this contract discover evidence of possible scientific, prehistoric, historical, paleontologic, or archeologic data, he will cease work and notify the Owner or Engineer immediately giving the location and nature of the finding. Written confirmation shall be forwarded immediately. The Owner will issue stop-work orders should the Contractor encounter any of the above-mentioned resources. The Contractor shall exercise care so as not to damage artifacts or fossils uncovered during excavation operations and shall provide the cooperation and assistance necessary to preserve the findings for removal.

C. Where appropriate by reason of a discovery, the Engineer may order delays in the time of performance, or changes in the work, or both. If such delays, or changes, or both, are ordered, the time of performance and contract price shall be adjusted in accordance with the applicable clauses in the Contract.

D. The Contractor agrees to insert this paragraph 3.08 in all subcontracts which involve the performance of work on the project site.

3.09 WASTE MATERIAL DISPOSAL

A. Excess excavated material not required or suitable for backfill, and other waste material, must be disposed of in licensed landfills or at other sites for which local, county, or state approval is obtained.

B. Unacceptable disposal sites include, but are not limited to, sites within a wetland land or critical habitat and sites where disposal will have a detrimental effect on surface water or groundwater quality.

C. Contractor may make his own arrangements for disposal subject to submission of proof that the owner(s) of the proposed site(s) has(have) a valid fill permit issued by the appropriate governmental agency.

D. Maintain areas covered by the Contract and affected public properties free from accumulations of waste, debris, and rubbish caused by construction operations. Remove excavated materials from the site, or stockpile where shown or directed by Engineer.

E. Cleaning and disposal shall comply with local ordinances and pollution control laws. Do not burn or bury rubbish or waste materials on the project site. Do not dispose of volatile wastes such as mineral spirits, oil, chemicals, or paint thinner on-site or in storm or sanitary drains. Disposal of wastes into streams or waterways is prohibited. Provide acceptable containers for collection and disposal of waste materials, debris, and rubbish.

3.09 MAINTENANCE, REMOVAL AND RESTORATION

A. The Contractor shall, at all times, keep the construction area, including storage areas used by him, free from accumulations of waste materials and rubbish.

B. Waste materials including, but not restricted to, refuse garbage, sanitary wastes, industrial wastes, and oil and other petroleum products, shall be disposed of by the Contractor. Materials must be disposed of by acceptable means such as an approved solid waste facility. It shall be the responsibility of the Contractor to make any necessary arrangements pertinent to the locations and regulations of such disposal. The Contractor shall pay any fees or charges required for disposal of materials.

3.10 OSHA REGULATIONS

A. General: Contractor will be required to comply with the Amendment to the Occupational Safety and Health Administration Construction Standards for Excavations, 29 CFR Part 1926, Subpart P printed Tuesday October 31, 1989 and effective January 2, 1990.

Any conflicting information between the OSHA document and these Contract Documents shall be revised to the OSHA document requirements and supersede and take precedence over all other conflicting information. Contractor shall be required to obtain copies of the OSHA document and to complete review of the same to avoid misrepresentation of their regulations

B. Trench Shoring

1. Type 1 TRENCH EXCAVATION. Excavation performed as Type 1 need not have protective support. The sides of all trenches shall be sloped back according to the soil type and in accordance with other criteria as defined in OSHA STANDARDS, 29 CFR, PART 1926, SUBPART P. Contractor shall solely be responsible for determination of soil type and full compliance.

2. TYPE 2 TRENCH EXCAVATION. Excavation performed as Type 2 shall provide a support system, shielded system or other system, if required, which adequately protects employees against cave-in and which is designed in accordance with OSHA STANDARDS as defined in 29 CFR, PART 1926, SUBPART P.

Note: OSHA regulations require that all trenches which are deeper than 20 ft. are to have the side slopes and/or the protective systems designed by a registered professional engineer.

3.11 HAZARDOUS ATMOSPHERES

A. Contractor shall prevent employee exposure to potentially harmful levels of atmospheric contaminants and assure acceptable atmospheric conditions by complying with the requirements of 29 CFR, Part 1926, Subpart P. Monitoring equipment shall be supplied as a requirement of this project.

3.12 CONTAMINATED MATERIALS

A. General: If contaminants are encountered, Contractor shall provide notice to the Owner and Engineer.

B. Procedures at Petroleum Contaminated Soils/Groundwater Site: Since the scope of the project is not designed as a cleanup, any contaminated soil material shall be separated during the excavation process from non-contaminated material, temporally stored and protected on the site, and then returned to the trench for

use as backfill material. Measures shall be taken to address the following requirements.

1. Contractor shall comply with all applicable OSHA regulations to protect the health and safety of their employees from known or suspected hazards in the work environment. For a Contractor working near any discovered contaminated areas during the process of the project, Contractor shall be required to demonstrate employee training **similar** to the requirements of 29 CFR 1910.120(e)(3) for "routine and non-routine site employees" on a hazardous waste site. Contractor shall be required to properly secure the site to protect and prevent exposure of the general public to the contaminated materials.

2. The pipe zone and bedding zone shall be sealed at each end of the determined petroleum contaminated material zone with impervious soil/bentonite trench plugs ($1x10^{7}$ cm/sec^{2}) to prevent migration of the contaminant from the area.

3. The pipe materials shall be stored, handled and installed to prevent contact with any contaminants, and where directed by the Engineer, prevent migration of the contaminants from the area. Engineer may revise the pipe, gaskets, and other materials as necessary to protect the project from contaminants. The Contractor shall be compensated for the increased material and labor costs associated with these pipe modifications.

4. The temporary site storage of the petroleum-contaminated material shall require securing the material from access by all unauthorized parties. The material shall be covered and provisions taken to prevent migration of the contaminants from the source material by rainstorms or other events. The material shall be placed on either an impervious liner material, or on an asphalt street surface. The material shall not be mixed with non-contaminated materials.

5. All petroleum-contaminated soils shall be returned to the trench as backfill material. They shall be confined to the area from which they came, and placed as near to their original depth as possible. The materials shall not be removed from the site.

All work related to training personnel in the handling of contaminated soils as per these specifications shall be done as incidental work and no separate payment shall be made.

C. Procedures at Other Contaminated Soil Sites: When contaminants other than petroleum products are encountered during the project (such as hazardous substances or wastes), the situation will be addressed by the Owner at the time of discovery.

D. Dewatering Activities: For areas where it is determined that the project will be in contaminated groundwater (containing hazardous materials), the dewatering procedure and progress of work on the project shall be addressed by the Owner at the time of discovery.

3.13 FIRE PROTECTION

A. Muffler systems on construction equipment shall have spark arresters to reduce risk of fire. The Contractor shall maintain fire extinguishers and other fire fighting equipment to quickly respond in the event of a fire.

3.14 WETLANDS

A. Wherever possible, construction shall avoid wetlands and riparian areas.

B. The Contractor shall comply with all of Section 401 water quality certification conditions, and any additional federal water quality requirements/conditions.

C. Construction equipment operating in wetlands shall be limited to that which is needed to perform stream channel and floodplain regrading.

D. Where required, vegetation removal beyond the immediate work area shall be done at ground level, leaving existing root systems intact. Grading and stump removal in wetlands shall be limited to directly over the work area, where possible.

E. Wide-track or balloon-tire construction equipment shall be used in saturated/inundated areas; timber pads, prefabricated equipment pads, or geotextile fabric overlain with gravel fill shall be used with normal equipment in such areas. All pads and temporary fill shall be removed following construction.

F. Hay bales, berms, or other acceptable erosion/sedimentation control devices shall be installed at the edge of wetlands and other waters prior to construction. All exposed soils shall be permanently stabilized at the earliest practicable date.

G. Hazardous materials, including fuels and lubricating oils, shall not be stored within 250 feet of wetlands. Additionally, construction equipment shall not be serviced or refueled within 250 feet of such areas.

H. Topsoil from wetlands shall be stockpiled with intact roots, rhizomes and seed banks. Where possible, the topsoil shall be returned to its original horizon.

I. Wetland ground surfaces shall be re-contoured to maintain preconstruction wetland hydrology.

J. When possible, disturbed wetlands shall be re-vegetated with native plant material obtained from local sources. Additionally, appropriate measures shall be taken to prevent the introduction/spread of noxious weeds into wetland areas.

3.15 THREATENED, ENDANGERED, CANDIDATE, AND SENSITIVE SPECIES AND HABITATS

A. The Contractor agrees that, should he or any of his employees in the performance of this contract, discover evidence of possible threatened, endangered, candidate, and sensitive species and habitats, he will cease work and notify the Owner and Engineer immediately, giving the location and nature of the finding. Written confirmation shall be forwarded immediately. The Owner may issue stop-work orders if construction encounters threatened, endangered, candidate, and sensitive species and habitats. Construction will continue only after consultation with Fish, Wildlife & Parks, US Fish and Wildlife Service, and/or other appropriate agency.

END OF SECTION

PART 1: GENERAL

1.01 DESCRIPTION

A. This work is the furnishing of labor, and equipment for installing, maintaining and operating traffic control devices to insure the safety of the general public and project personnel.

1.02 REQUIREMENTS

A. Perform work under this section meeting:

- Manual of Uniform Traffic Control Services (MUTCD),
- MDT 2006 Standard Specifications, Section 618,
- Missoula County Public Works Department, Public Works Construction Manual, Section 7 Traffic Control,
- and contract requirements.

1.03 NOTIFICATIONS

A. Coordinate all construction activities to reduce traffic conflicts at the work site, off-site events or other construction projects.

B. Furnish the Engineer, for Owner review, a copy of the approved construction traffic control plan at least one week before construction begins or before changes in segments or phases of the work on the project. The Owner will review and approve the Traffic Control Plan considering known off-site activities and may require modification to the plan or construction timing to coordinate events. Work shall not commence until said plan is approved.

PART 2: PRODUCT

2.01 TRAFFIC CONTROL DEVICES

A. Assure all signs and barricades are reflectorized. Assure all night time traffic control devices meet MUTCD lighting requirements.

B. Use traffic control devices meeting the "Manual of Uniform Traffic Control Devices" and the "Traffic Control Devices Handbook" requirements, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20492.

C. Assure all traffic control devices are clean, legible, reflective for night-time use, and operable.

PART 3: EXECUTION

3.01 WORK METHODS:

A. Place all traffic control devices as planned before permitting men or equipment on the traveled way. Install signs, cones and barricades in that order.

B. Inspect the work area at least twice each day during construction and maintain records of traffic control devices used and their location.

C. Assure traffic control is appropriate to the work. Assure traffic control devices are appropriate and clean before suspending work for the day.

D. Remove traffic control devices in reverse order of installation at the end of each shift.

E. Remove and store all unnecessary traffic control devices away from traffic's view.

3.02 NONCOMPLIANCE

A. Remove, repair or replace any traffic control device not providing its intended function.

B. Do not begin work until all required traffic control devices are placed.

C. The Engineer will periodically inspect the traffic control and inform the Contractor of any deficiencies.

D. Contractor failure to correct any deficiency in the traffic control within 4 hours of notification is cause to deduct monies from the contract payment on the next progress payment.

E. The Engineer may direct correcting traffic control deficiencies immediately. Failure to immediately correct the deficiency is cause for the Engineer to correct the deficiency at Contractor expense.

3.03 FLAGGING

A. Furnish competent and properly equipped flag persons as described in the booklet "Instructions for Flag persons" furnished by the Montana Department of Transportation.

END OF SECTION

PART 1: GENERAL

1.01 DESCRIPTION

A. The work covered in this section includes items required in final closeout of this project.

1.02 RECORD DOCUMENTS

A. Submit record documents as required by the Owner. Final payment will not be processed until the documents are submitted to and approved by the Owner.

1.03 OPERATION AND MAINTENANCE DATA

A. Where applicable, submit two sets, before final inspection, bound in three ring binders. Prepare a table of contents for each volume with each product or system identified.

B. Where applicable, prepare the following:

1. Directory, listing names, addresses and telephone numbers of Engineer, Contractor, Subcontractor, and Equipment Suppliers.

2. Operations and maintenance instructions, arranged by system. For each category, identify the applicable Contractor(s) or Subcontractor(s) and suppliers. Identify the following:

a) Significant design criteria
b) List of equipment
c) Parts list for each component
d) Operating instructions
e) Maintenance instructions

1.04 WARRANTTIES AND BONDS

A. Submit, with final payment request, all warranty certificates, lien releases, and consent of security forms.

PART 2: PRODUCTS - NOT USED

PART 3: EXECUTION - NOT USED

END OF SECTION

PART 1 GENERAL

1.01 WORK INCLUDED

A. This section covers the coordination and work necessary to move in personnel and equipment, set up all temporary facilities, utilities, erosion and sediment controls, and prepare the site for construction, complete.

1.02 GENERAL

A. The limits of the site are shown on the Drawings. The Contractor shall coordinate the location of their temporary facilities with the Owner.

PART 2 PRODUCTS

2.01 TEMPORARY FACILITIES

A. The Contractor shall provide all temporary facilities as required for performing the work.

PART 3 EXECUTION

3.01 COORDINATION

A. The project site is located within property that is owned by the Montana Department of Fish, Wildlife & Parks. Before move in and site preparation, the Contractor shall notify and coordinate with the Engineer.

3.02 LAYOUT

A. Set up construction facilities in a neat and orderly manner within Contractor-secured staging areas. Accomplish all required work in accordance with applicable portions of these Specifications. Confine operations to work area shown.

3.03 OBSTRUCTIONS

A. Some obstructions may not be shown. The Contractor is advised to carefully inspect the existing site before starting construction activities. The removal and replacement of minor obstructions such as fences, culverts, small piping, and similar items shall be anticipated and accomplished, even though not shown or specifically mentioned.

B. Major obstructions encountered that are not shown on the Drawings, or could not have been foreseen by visual inspection of the site should immediately be brought to the attention of the Engineer. The Owner will make a determination before proceeding with the work. If the Owner finds that the obstruction adversely affects the Contractor's costs or schedule of completion, a proper adjustment to the Contract will be made to account for these obstructions.

END OF SECTION

PART 1 GENERAL

1.01 WORK INCLUDED

A. The work of this section consists of the clearing and / or salvaging of vegetation. Clearing includes removal, stockpiling, and disposal of plant materials that are unsalvageable such as stumps and roots. Other structures such as fences and debris that will interfere with the construction of this project will be removed. Plant materials such as woody shrubs (willows) and sod mats will be salvaged from within the project area and transplanted within the project. In addition, existing topsoil from the site will be stockpiled for incorporation along streambank / channel reconstruction and development of floodplain.

PART 2 PRODUCTS

2.01 GENERAL

A. Provide all materials and equipment, suitable and in adequate quantity, required to accomplish the work as specified herein.

PART 3 EXECUTION

3.01 GENERAL

A. Clearing and Grubbing for the construction of the Project shall not extend beyond the construction limits except as accepted by the Owner or Engineer. Clearing for project construction shall not exceed any easement limits.

3.02 CLEARING

A. Clearing shall consist of the removal and disposal of trees, stumps, shrubs, brush, grass, vegetation, surface debris, abandoned structures, fences, and other objectionable matter from within the described clearing limits. Areas to be cleared will be determined by project engineer following assessment and marking of salvageable plant materials.

3.03 GRUBBING

A. Grubbing shall consist of the excavation, removal, and disposal of roots, matted roots, and buried and surface debris from within the described clearing limits. In areas of grading or excavation, remove stumps, roots, structures or foundations a minimum of 6 inches below finished grade. In areas of embankment remove stumps, roots, structures or foundations a minimum of 6 inches below original grade. Backfill all grubbing holes, with accepted material and compact to approximately the same density as the existing surrounding soils.

3.04 PRESERVATION OF TREES, SHRUBS, AND OTHER VEGETATION

A. Protect trees, shrubbery, and other vegetation not designated for removal from damage resulting from the work. Cut and remove tree branches only where, in the

opinion of the Engineer, such cutting is necessary to effect construction operation. Remove branches other than those required to provide a balanced appearance of any tree, as accepted, prior to removal. Scars resulting from the removal of branches shall be treated with an accepted tree sealant.

3.05 SALVAGE AND PROTECTION

A. Vegetation debris shall be disposed by the Contractor; unless such material is acceptable and required for revegetation or other use as specified in later sections of these Contract Documents.

B. The Contractor shall protect plant growth and features remaining as final revegetation.

C. The Contractor shall protect survey benchmarks, control points, and existing work from damage or displacement.

D. The Contractor shall maintain a designated site access for vehicle traffic.

E. The Contractor shall salvage and protect existing fence wire, wood posts, metal posts and any other structures or debris not to be removed from the project site.

F. Protocols for salvaging of plant materials will be implemented and directed by engineer (vegetation specialist).

3.06 SALVAGING AND TRANSPLANTING METHODS

A. This salvage method includes harvesting of an entire live willow clump with the above ground stems and intact root system.

B. These methods will be implemented along the proposed floodplain reconstruction zone where willow cover is extensive and shows good regeneration. Willow clumps should be young and show vigorous stem growth for the season. Clump sizes will range from 8-15 feet tall and diameter of the 3-4 feet the size of excavator bucket.

C. Clumps are removed from the ground by digging straight down and under to the root mass. Start the hole by placing the bucket teeth about 10 inches away from the stems and dig down about the depth of the bucket (approximately 3 feet) getting as much of the root mass as possible.

D. The floodplain reconstruction will require the removal of willows as the site is cleared and grubbed. Willow salvaging and transplants should be conducted as the floodplain zone is created.

E. Transplanting is most successful when willow clumps are salvaged and then immediately planted. Planting holes can be dug prior to salvaging and willows removed and then transported directly to the planting hole.

F. Depending on the grading process for floodplain reconstruction, willows may need to salvaged and then temporarily stored prior to planting. Willow clumps can be removed and stored in a nursery bed that keeps as much soil and root mass together and avoids drying of the roots. Water the willow clumps when they arrived at the planting site or nursery bed. Avoid leaving the clumps in the sun for long periods.

G. Holes for the transplant sites will be pre-dug and ideally deep enough that it's just above the standing water table. Avoid digging into the water table if present during construction. The root mass of the clump should be located in the saturated moisture zone and not in the standing water zone. The hole should be about the diameter of clumps root mass with at least 4-5 feet of the willow stems sticking out of the ground when you are finished planting the clump.

H. Fill in the hole with soil and water. Use the bucket to pack around the willow clump so there are no air pockets around the root mass.

I. Transplants are finished by removing about one third to one half of the willows above ground stem tops straight across.

3.07 TOPSOIL

A. The top 6 inches of top soil shall be salvaged and stockpiled by the Contractor for future placement on all graded or otherwise disturbed areas as directed by Owner. Disturbance to top soil not previously disturbed by grubbing or excavation shall be minimized or left in an undisturbed state to prevent any excess erosion at the site due to the high percentage of fines in the soil.

3.08 DISPOSAL OF WASTE MATERIAL

A. Any burning or disposal operations shall be subject to all laws governing such operations. The Contractor shall be responsible for any damage to life and/or property caused by fire resulting from any phase of construction. A copy of the Contractor's burning permit shall be submitted to the Engineer. Noncombustible material shall become the property of the Contractor and shall be removed from the site of work.

B. It shall be the Contractor's responsibility to select an acceptable method of disposal for vegetation or debris not salvageable. The Contractor shall be responsible for obtaining the necessary authorization from State and local agencies for disposal if required; and any accidental loss or damage as a result of the chosen disposal method shall be the Contractor's responsibility and shall in no way involve the Owner or Engineer.

END OF SECTION

PART 1: GENERAL

1.01 DESCRIPTION

A. This work is the excavation and embankment for stream and floodplain shaping and reconstruction. It includes all site preparation, removal and disposal of debris from the excavation, handling and storing materials for fill and backfill, construction dewatering, all backfill, subgrade preparation, final grading, site dressing and cleanup.

1.02 REFERENCES

A. The current publications listed below form part of this specification.

AASHTO T99	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5-lb (2.5kg) Rammer and 12-inch (305mm) Drop
ASTM D698	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5-lb (2.5kg) Rammer and 12-inch (305mm) Drop
AASHTO T191 (ASTM D1556)	Density of Soil In-Place by the Sand-Cone Method
AASHTO T310	In-Place density and water content of the soil and soil (ASTM D6938) aggregate by Nuclear Method (Shallow Depth)
AASHTO T11 (ASTM C117)	Materials Finer Than 0.075mm (No. 200) Sieve in Mineral Aggregates by Washing
AASHTO T27 (ASTM C136)	Sieve Analysis of Fine and Coarse Aggregate
AASHTO T89	Determining the Liquid Limit of Soils
AASHTO T90	Determining the Plastic Limit and Plasticity Index of Soils
ASTM D4318	Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils

1.03 TESTING

A. Field Density Testing

1. Meet the quality control and quality assurance testing requirements in Section 01400, Contractor Quality Control and Owner Quality Assurance.

2. In-place field density tests for quality assurance are at Owner expense meeting AASHTO T191 (ASTM D1556), Sand Cone Method; or by AASHTO T310 (ASTM D6938) Nuclear Densometer Methods. Quality assurance field density testing frequency is at the Engineer's discretion.
3. Re-testing failing areas is at the expense of the Contractor.
4. At the direction of the Engineer, provide necessary equipment and labor to excavate and replace materials for test holes up to 5 feet deep into the compacted backfill to allow testing below the surface of any layers covered without inspection and approval by the Engineer.

B. Laboratory Maximum Density and Optimum Moisture

1. Quality assurance tests will be made by the Engineer for each on-site natural soil or each source of off-site material, including borrow material, to determine the laboratory maximum density values and optimum compaction moisture content according to AASHTO T-99 or ASTM D698.

C. Material Submittals

1. Submit to the Engineer samples of on-site and off-site borrow soils for laboratory moisture-density relationship testing by the Engineer.
2. If applicable, submit a blasting plan to the Engineer.

PART 2: PRODUCTS

2.01 EARTHWORK MATERIALS

A. See Drawings for material specifications for stream work.

B. Road reconstruction shall be from onsite materials generated from excavation.

PART 3: EXECUTION

3.01 PROTECTION OF EXISTING PROPERTIES

A. General

1. Take precautions to protect all adjoining private and public property and facilities, including underground and overhead utilities, curbs, sidewalks, driveways, structures, and fences. Restore or replace all disturbed or damaged facilities to its original condition at Contractor's expense.

2. Contact utility owners using the Montana One Call System in accordance with Section 01041, PROJECT COORDINATION, Paragraph 1.2.B., for utility locates before starting work. Protect the utilities exposed during the work and prevent damaging underground utilities adjacent to excavations. Immediately notify the utility owner of any construction damage. Repairs of damage to marked utilities are at the expense of the Contractor.

B. Privately Owned Utilities

1. If any existing private utility interferes with the work in either alignment or grade, and has to be moved, the work will be performed by the appropriate UTILITY Owner, unless otherwise specified in the contract documents. Such private utilities may include gas mains, underground electrical and telephone cables, telephone poles, light poles, etc.

C. Existing Structures

1. Prevent damage to existing buildings or structures in the work area. Repair all construction related damage to the satisfaction of the Owner.

D. Existing Overhead Utilities

1. Use extreme caution to avoid conflict, contact or damage to overhead utilities during the work.

E. Exploratory Excavation

1. The location of existing buried public utilities may need to be verified by exploratory excavation before construction.

2. Where authorized by the Engineer, the Contractor will be reimbursed for exploratory excavation work at the unit price bid per hour for a backhoe/excavator with operator and a laborer to assist. Use a backhoe/excavator having at least 60 horsepower (45kw), as rated by the manufacturer.

3. The unit price per hour includes the backhoe/excavator, operator and one laborer based upon the actual time, to the nearest one-half hour, that the equipment and personnel are used in actual excavating and backfilling operations including standby time between excavation and backfilling which allows the Engineer to make the necessary survey of the underground utilities.

4. Exercise care to prevent damaging all utilities and repair any utility damage caused by exploratory excavation.

3.02 SURVEY MARKERS AND MONUMENTS

A. Protect all survey markers and monuments. Protection includes marking with flagged high lath and supervising work near markers and monuments. Do not disturb monuments without prior approval from the Engineer.

B. Replace all Contractor disturbed or destroyed survey markers or monuments, not approved during construction, using a licensed land surveyor. See Section 01050 for details on survey marker protection/disturbance.

3.03 CLEANUP

A. As work progresses, remove debris and complete to finish grade each portion of the work.

END OF SECTION

PART 1 - GENERAL

1.01 WORK INCLUDED

A. The work included under this section consists of furnishing all construction plans, labor, equipment, and incidentals necessary for the dewatering of the project site, and the diversion and care of the stream during construction of the Project. Note that diversion and care of the stream may require a system of pumping plants, pipelines and/or flumes. The work also includes complete removal of all dewatering equipment and structures from the project site including demolition of any coffer-dams or other dewatering structures constructed during earlier construction phases.

B. The CONTRACTOR is responsible to satisfy himself as to the extent and cost of all necessary dewatering.

C. French Creek exhibits significant flows year round. The stream is anticipated to be low at the project site during the construction phase. Storm events may produce increased stream flow to be mitigated through dewatering and/or diversion in accordance with the SWPPP.

D. Flood flows from French Creek are not anticipated at the project location during the project schedule. However, all effort and materials required to prepare for, mitigate, and restore effects of a storm event during construction are considered incidental to the erosion control work.

1.02 QUALITY ASSURANCE

A. The CONTRACTOR shall be responsible to research and satisfy himself as to the size, type, and quality of the dewatering system including the method of diversion and care of the creek during construction. In the case of a runoff event which damages the dewatering and/or diversion system or completed work, the OWNER and ENGINEER shall not be held liable.

B. It shall be the CONTRACTOR's responsibility to comply with all requirements and regulations of all federal, state or local agencies that govern the work affecting the construction.

1.03 SUBMITTALS

A. The CONTRACTOR shall submit to the ENGINEER prior to the start of any work, complete dewatering plans including:

1. Description of the overall dewatering and diversion system;

2. Proposed equipment, geometry and capacity;

3. Proposed procedures;

4. Proposed equipment and materials;

5. Proposed schedule.

B. Review will be made by both the OWNER and ENGINEER as to the proposed system. The review will only be with respect to the basic principles of the methods the CONTRACTOR intends to employ to reasonably ensure protection of embankment, structures, and water quality. The CONTRACTOR will be solely responsible for the arrangement, location, and depths of the system necessary to accomplish the work of dewatering and the protection of embankments, structures, and water quality.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION

3.01 CONTRACTOR'S RESPONSIBILITY

A. The CONTRACTOR shall furnish all necessary labor, equipment, and incidentals necessary to de-water the project site and provide diversion and care of the stream during the period of construction.

B. The CONTRACTOR shall keep the construction area free from water by; diversion, pumped dewatering, berming, coffer-damming, sheet pile coffer-dams, or by other methods or combination thereof.

C. The CONTRACTOR shall, at the end of construction or whenever they are no longer needed, completely remove all dewatering equipment from the project site and demolish any existing coffer-dams or other dewatering structures either constructed by the CONTRACTOR or still in existence from earlier work. Coffer-dam material must be removed from the creek.

3.02 PROTECTION

A. At all times the CONTRACTOR shall provide sufficient protection to ensure the safety to personnel, equipment, materials, and existing structures, and to the public for activities relating to dewatering.

END OF SECTION

PART 1 GENERAL

1.01 WORK INCLUDED

A. The work included in this section consists of finish grading, reseeding of disturbed areas with native grasses, and providing revegetation tasks with the installation of containerized herbaceous and woody plants.

B. Include any incidental work which can reasonably be inferred as part of the work and necessary to provide complete revegetation of the project. These may include unloading of plant materials, salvaging woody shrubs and sod mats, transporting and planting of salvaged plant materials, and conducting pre-project weed control.

1.02 GENERAL

A. See Division 1, GENERAL REQUIREMENTS, which contain information and requirements that apply to the work specified herein and are mandatory for this project.

B. Topsoil unnecessarily removed shall be replaced and seeded at the Contractor's expense.

1.03 SUBMITTALS

A. Submittals during construction shall be made in accordance with Division 1, GENERAL REQUIREMENTS.

PART 2 PRODUCTS

2.01 TOPSOIL

A. Topsoil may be available from onsite stockpiles by the Contractor as specified in Section 02130 CLEARING AND GRUBBING. Topsoil shall be considered to be natural surface soil capable of producing satisfactory native plants and shall be free of matter that may be harmful to plant growth or a hindrance to grading, seeding, and maintenance.

B. The preferred soil texture includes loam, silt loam, and clay loam.

2.02 SEED

A. General: Furnish all seed that complies and is labeled in accordance with the Montana Seed Law and U.S.D.A. Rules and Regulations under the Federal Seed Act. Provide seed in the amount and species specified in plan sheets under Drawing Number D-4: Planting Specifications Tables. Seed which has become wet, moldy or otherwise damaged in transit or in storage will not be acceptable. Seed shall contain not less than eighty-five percent pure live seed and not more

than 0.5 percent weed seed.

B. Seed Testing: All seed shall be tested within twelve months prior to the planting date. All testing shall be performed by a State Seed Lab, Commercial Seed Testing Lab, or a registered member of the Society of Commercial Seed Analysts (Registered Seed technologist). The Contractor shall furnish the Engineer a certified test report prior to the start of seed operations. Seed not planted within the 12-month period shall be retested for dormant seed, hard seed, and germination and a new certified test report furnished to the Engineer. Testing shall be the responsibility of the Contractor.

C. Labeling: Supply the Project Engineer with all seed bag tags and certification from the suppliers stating that the seed complies with the Federal Seed Act and the Montana Seed Laws (MCA 80-5-101- through 305) or the following information:

1. Name and address of supplier.

2. Common name, genus, species, and subspecies when applicable.

3. Supplier's lot number for each kind of seed.

4. Year of Production.

5. Purity and germination for each kind of seed.

6. Pounds of bulk seed of each kind of seed in bag.

7. Pounds of pure live seed (PLS) of each species.

8. Percent of each species.

9. State or county origin.

10. Percent of weed species.

Ensure that the seed contains no "PROHIBITED" noxious weed seed. Ensure that the seed contains no "RESTRICTED" noxious weed seed in excess of the maximum numbers per pound as specified by MCA 80-5-105 or as specified by the appropriate County Weed Board, whichever is more stringent. Ensure that the number of seed per pound for all other noxious weed seeds shown on the "restricted list" is zero.

E. Seed Mix: The seed mix and native plantings used shall be submitted to the Engineer within 10 days prior to start of construction. No seeding or plantings shall be performed prior to Owner approval.

Wetlands / Streambank Seed Mix

Scientific Name	Common Name	Pure Live Seed (Lbs./Acre)
Beckmannia syzigachne	American sloughgrass	0.5
Bromus ciliatus	fringed brome	3.8
Calamagrostis canadensis	bluejoint reedgrass	0.5
Carex nebrascensis	Nebraska sedge	1.0
Carex utriculata	Northwest Terrority Sedge	1.5
Deschampsia cespitosa	tufted hairgrass	1.0
Eleocharis palustris	creeping spikerush	0.5
Glyceria grandis	fowl mannagrass	0.5
Juncus effusus	common rush	0.5
Poa palustris	fowl bluegrass	0.2
	Total	**10**

Riparian Seed Mix

Scientific Name	Common Name	Pure Live Seed (Lbs./Acre)
Bromus ciliatus	fringed brome	0.5
Calamagrostis canadensis	bluejoint reedgrass	0.5
Deschampsia cespitosa	tufted hairgrass	0.5
Elymus trachycaulus ssp. trachycaulus	slender wheatgrass	4.7
Elymus glaucus	Blue wildrye	2.5
Geranium viscosissimum	wild geranium	1.0
Juncus balticus	Baltic rush	0.1
Poa compressa	Canada bluegrass	0.2
	Total	**10**

F. Native Cuttings shall be sand bar willow, Drummond willow, Booth willow, red-osier dogwood and/or cottonwood cuttings.

2.02 WEED CONTROL

A. Herbicide: Tordon product as approved by Owner.

PART 3 EXECUTION

3.01 GENERAL SITE GRADING AND PREPARATION WORK

A. Preparation of Subgrade: After rough grading is completed and before topsoil is spread, thoroughly scarify ground to a minimum depth of 8 inches with a toothed ripping machine by running in two directions at right angles over the entire surface to be planted.

B. Topsoil for all areas with native grasses shall be stockpiled during site stripping. If additional topsoil is needed, the Contractor shall import topsoil at their sole expense.

3.02 SEEDING

A. Soil Preparation: All areas disturbed by construction shall be seeded. The Contractor shall also provide weed control on all disturbed areas until completion of construction activities.

1. In areas that have not been disturbed by construction activities Contractor shall disc existing vegetation and soil to minimum depth of two (2) inches.

B. Method of Seeding: Method of seeding shall be by broadcast on all flat and sloped areas as directed by engineer.

C. Applications: The seed shall be broadcast seeded using spreader equipment or by hand if completed by experience revegetation personal. The anticipated seed application rate shall be 10.0 pounds of pure live seed per acre.

E. The Wetland / Streambank Seed Mix shall be applied to all areas designated for wetland depressions and along the streambank reconstruction zone.

F. Seeding shall be done at times of the year when climatic conditions including temperature and soil moisture are conducive to growth. All seeding shall occur after October 1st. These periods may vary depending on the climatic conditions and are subject to final approval by the Owner.

3.03 NATIVE CUTTINGS

A. Planting of the native cuttings shall occur when climatic conditions including temperature and soil moisture are conducive to growth.

B. Plant cuttings in locations shown on Drawings to maximize success rate. Soak cutting prior to planting and embed cutting 1.0’ minimum below finished grade or as shown on drawings.

END OF SECTION

PART 1 GENERAL

1.01 WORK INCLUDED

A. This work consists of placing rock and fill to simulate a natural streambed, profile and cross section. The placement of coarse representative alluvium and dominant rock for: riffle, pools, step/pools, and other in stream rock structures, is included within this specification.

1.02 GENERAL

A. See Division 1, GENERAL REQUIREMENTS, which contain information and requirements that apply to the work specified herein and are mandatory for this project.

1.03 SUBMITTALS

A. Submittals during construction shall be made in accordance with Division 1, GENERAL REQUIREMENTS.

1. The Contractor shall designate in writing to the Engineer the source of materials,

2. certifications and/or manufacturer's information indicating the product meets requirements herein,

3. any warranty, design life, or maintenance information from the manufacturer.

1.04 DELIVERY, STORAGE, AND HANDLING

A. All products shall be furnished sufficiently to protect against moisture intrusion and extended ultraviolet exposure prior to placement. Each shall be labeled allowing for the identification of the material and its dimensions, and providing sufficient tracking of production for quality control purposes.

B. Shall be free of defects and voids that would interfere with proper installation or impair performance, in conformance with the product specifications.

C. Stored by Contractor in a manner that protects from damage by construction activities, sheltered from weather and maintains the clean and dry condition of the material.

PART 2 PRODUCTS

2.01 COIR FABRIC

A. Fabric

1. Shall be of consistent thickness with matrix fibers distributed evenly over the entirety of the blanket, in conformance with the product specifications.

2. Sufficient tensile strength, thickness, and coverage to maintain integrity during installation and ensure material performance.

3. Max opening size shall be 0.75".

2.02 COARSE REPRESENTATIVE ALLUVIUM

A. Furnish a mixture of soil, gravel, cobble, and boulders to simulate a natural streambed.

B. Native material produced form onsite excavation shall be used for stream work as approved by Engineer.

PART 3 EXECUTION

3.01 INSTALLATION

A. Stream channel shall be constructed as shown on the Drawings or as directed by Owner and Engineer onsite.

B. STREAM CHANNEL

1. Place streambed material on a prepared surface to form a well-graded, low permeability mass, similar in appearance and texture to the natural streambed.

2. Place streambed material around wood, rock and other channel features to prevent voids and feature instability.

C. COIR FABRIC

1. Prepare final grading of surface by hand or small machinery to provide uniform surface without excessive protrusions.

2. Minimum lateral overlap of blankets is 2 feet.

3. Close fabric ends as shown on Drawings.

END OF SECTION